TransCanada PipeLines

Annual Report 1978

Directors and Officers

Directors

John M. Beddome
Senior Vice President
Dome Petroleum Limited, Calgary

James M. Cameron
Executive Vice President
TransCanada PipeLines, Toronto

John H. C. Clarry, Q.C.
Messrs. McCarthy & McCarthy,
Toronto

John H. Coleman
President
J.H.C. Associates Limited, Toronto

A. Jean de Grandpré, Q.C.
Chairman and Chief Executive Officer
Bell Canada, Montreal

John P. Gallagher
Chairman and Chief Executive Officer
Dome Petroleum Limited, Calgary

Russell E. Harrison
Chairman and Chief Executive Officer
Canadian Imperial Bank of Commerce,
Toronto

Robert H. Jones
President
The Investors Group, Winnipeg

James W. Kerr
Chairman and Chief Executive Officer
TransCanada PipeLines, Toronto

Gordon P. Osler
Vice Chairman and
Chief Executive Officer
British Steel Corporation
(Canada) Limited, Toronto

Herbert C. Pinder
President
Saskatoon Trading Company Limited,
Saskatoon

Smiley Raborn, Jr.
Chairman and Chief Executive Officer
CanDel Oil Ltd., Calgary

William E. Richards
President
Dome Petroleum Limited, Calgary

Frank A. Schultz
Independent Oil Operator, Dallas

J. Ross Tolmie, Q.C.
Messrs. Herridge, Tolmie, Ottawa

George W. Woods
President
TransCanada PipeLines, Toronto

Principal Officers

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Chairman and Chief Executive Officer

George W. Woods, F.C.A.
President

James M. Cameron
Executive Vice President

Walter Hindle, P.Eng.
Group Vice President

John K. Archambault
Vice President and General Counsel

Gordon A. Leslie, P.Geol.
Vice President
Customer Relations and Planning

C. Kennedy Orr, C.A.
Vice President, Alberta Affairs

Richard D. Walker, P.Eng.
Vice President, Gas Transmission

John G. C. Weir
Vice President, Corporate Services
(deceased January, 1979)

George C. Britton, P.Eng.
Vice President
Engineering and Operations — Pipeline

Bruce M. Escoffery, P.Eng.
Vice President, Rates

George M. Hugh, P.Eng.
Vice President
Engineering and Operations —
Compression

H. Neil Nichols, R.I.A.
Vice President and Treasurer

Raymond F. Sim, C.A.
Vice President, Administration

Kenneth G. Whiteside, C.A.
Vice President and Controller

Arthur A. Wilkins, B.Sc.
Vice President, Gas Supply

Donald M. Johnston
Corporate Secretary

(Left to Right):
Standing:
J. M. Beddome
H. C. Pinder
R. H. Jones
J. P. Gallagher
J. H. C. Clarry
R. E. Harrison

Sitting:
W. E. Richards
G. P. Osler
J. H. Coleman
F. A. Schultz
J. M. Cameron
J. W. Kerr
G. W. Woods
J. R. Tolmie
S. Raborn, Jr.
A. J. de Grandpré

Highlights

	1978	1977
Operations	**($000)**	($000)
Operating revenues	**2,193,213**	1,870,325
Operating income	**159,140**	142,761
Net income	**95,099**	86,183
Funds provided from operations	**147,905**	131,744
Dividends declared		
Preferred shares	**7,132**	7,786
Common shares	**42,448**	37,922
Net income per common share		
Basic	**$ 2.20**	$ 2.01
Fully diluted	**2.18**	1.95
Dividends declared, per common share	**1.06¼**	.97
Gas transmission plant	**($000)**	($000)
Gross plant	**1,766,893**	1,720,910
Gas delivered for sales and transportation (millions of cubic feet)		
Annual volume	**1,158,154**	1,170,343

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Cover: TransCanada PipeLine's Compressor Station 45, Falcon Lake, Manitoba.

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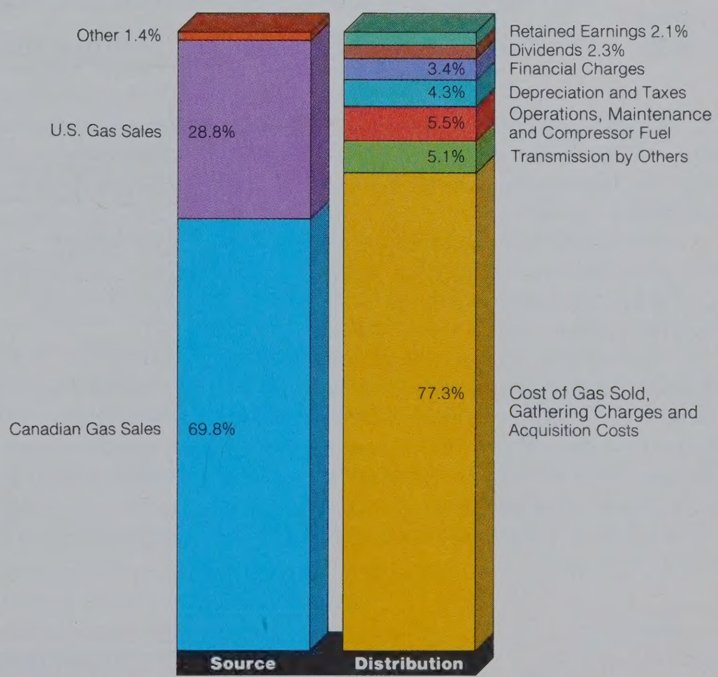


1978 Revenue Dollar

George W. Woods, President,
James W. Kerr, Chairman and Chief Executive Officer,
James M. Cameron, Executive Vice President.

14th World Gas Conference Toronto 1979
14^{e} Congrès Mondial du Gaz Toronto 1979

The 14th World Gas Conference, sponsored by the International Gas Union, will be held in Toronto from May 27 to June 1, 1979. The Conference will be under the Chairmanship of James W. Kerr in his capacity as President of the International Gas Union.

Authors from 22 of the 36 nations that comprise the I.G.U. will present 66 technical papers covering almost every facet of gas operations around the world. In addition, theme papers on important aspects of the world energy scene will be presented by eminent engineers and scientists.

The International Colloquium about Gas Marketing is a feature of the Conference with special interest for the consumer. Another important feature will be the Gas Industry Exhibition where the latest and most technically advanced equipment, services and developments in the gas industry will be displayed. Many technical tours of gas installations and manufacturing plants have also been arranged.

This is Canada's first opportunity to host this important Conference of the global gas industry.

Report to Shareholders

On October 10, 1978, TransCanada PipeLines completed the first 20 years of operation of its natural gas transmission system. The Company now ranks 13th in sales, 13th in net revenues and 16th in assets among Canadian corporations.

During 1978, the operating results of your Company continued to improve. From August 1, the cost of service included a 10.75% rate of return on rate base and reflected a change from the flow through to the normalized method of accounting for income taxes.

The 1978 highlights were:

—an increase in net income applicable to common shares to $87,926,000, up from $78,323,000 in 1977.

—new record revenues of $2,193,213,000.

—an increase in basic earnings per share to $2.20 compared to $2.01 in 1977.

—an increase in the annual dividend rate on January 31, 1979 from $1.03 to $1.16.

—earnings from Great Lakes Gas Transmission Company of $7,975,000.

A total of 1,158 Bcf of natural gas was sold and transported by the Company during 1978, compared to 1,138 Bcf in 1977, not including emergency deliveries to the United States. Canadian sales increased during the year by 20 Bcf. A new peak day delivery of 3,826,474 Mcf was established during 1978, up from the 1977 peak day delivery of 3,818,939 Mcf.

The reduced rate of growth in sales reflects the effects of competition in eastern Canadian markets from low priced imported coal and the current oversupply of residual fuel oil. Important conservation efforts by all segments of the market also reduced sales growth. The price of natural gas established by the Government of Canada and the Government of Alberta was increased twice during the year. On February 1, 1978, the delivered price at the Toronto city gate was set at $1.85 per million Btu, up from the previous price of $1.68 per million Btu. On August 1 the delivered price at the Toronto city gate was again increased to $2.00 per million Btu. Export prices were $2.16 (U.S.) per million Btu during the year.

In 1978 the Canadian gas reserves once again grew very rapidly as a result of higher prices and Alberta Government incentives available to producers. It is estimated that reserves under contract to TransCanada increased by 1 Tcf during the year. This growth in gas supply along with a decline in market growth has resulted in TransCanada's current gas purchase obligations being significantly in excess of its market requirements. When this condition became apparent, and to prevent the severe dislocations which would have resulted from strict enforcement of gas purchase contract terms, TransCanada recommended to the producing segment of the

industry a method of allocating its existing market among all of its suppliers on an equitable basis. Producers supplying more than 99% of the gas under contract have accepted the proposal and the allocation procedure has been implemented.

In 1977 the Company's take or pay obligation was 7 Bcf. In 1978 the volume which the Company was obligated to pay for, but deferred taking, was 120 Bcf. The Company borrowed $154,000,000 from its bankers for payments to producers. In the absence of significant new domestic or export sales, it is presently anticipated that take or pay volumes in 1979 will be equal to or higher than those of 1978.

TransCanada now has a gas reserve life index of approximately 22 years. The strength of the Company's gas supply is a definite asset in promoting additional sales because of the assurance it provides prospective customers of a continuation of supply.

TransCanada has taken a number of steps to increase future sales:

—an application was filed with the National Energy Board in April, 1978 covering Phase I of a phased program to extend the Company's natural gas transmission system to Quebec City. Phase I was an extension to Trois-Rivières and Bécancour and was proposed to be completed by November 1, 1979. As a result of delays in the expected time of the hearing it was decided to amend the application to extend the pipeline as far as Quebec City in one stage. New pipeline facilities in the Eastern Townships of Quebec will also be included in this proposed expansion. Studies are under way to develop appropriate methods to implement the national goal of energy self-reliance in markets east of Quebec City and in the Atlantic Provinces.

—an application was also filed with the National Energy Board seeking authorization to export sufficient additional volumes of natural gas to markets in the midwestern United States in 1979 and 1980 so that the Company's facilities would be fully utilized. The companion applications to United States' regulatory bodies have been filed by the Company's customers in the United States.

—a further application has also been filed to extend from 1980 to 1985 the export of approximately 223,000 Mcf of gas per day presently being sold to Midwestern Gas Transmission at Emerson, Manitoba.

—in February, 1979, TransCanada negotiated a sale to Consolidated Natural Gas Limited, a subsidiary of Northern Natural Gas, commencing on November 1, 1980, of a daily volume of up to 200,000 Mcf per day for export to Northern Natural Gas at Emerson, Manitoba. Completion of this sale is subject to Canadian and United States regulatory approvals. TransCanada and its United States affiliate, Great Lakes Gas Transmission Company, already transport Montana-produced natural gas for Northern Natural.

—TransCanada has agreed to transport volumes of natural gas owned by others if and when they receive the necessary authorizations.

A major improvement in the Canadian economy could also lead to expanded natural gas sales. Expansion into new Canadian domestic markets will be difficult however until excess residual oils are removed either by exports or by upgrading.

The Company continues to support the marketing programs of the utilities to whom it sells natural gas through an advertising campaign. These distribution utilities have been increasing sales in the residential and commercial sectors, but are encountering competition in the industrial sector from both domestic and imported coal, and from heavy residual oils.

With appropriate government policies it is evident that Canada has sufficient natural gas reserves both to displace large volumes of imported fuel from eastern Canadian markets, and to make short-term exports. Both could make large contributions to Canada's balance of payments.

The growth of natural gas reserves from Canada's traditional producing areas in Alberta and British Columbia has reduced the urgency of attaching frontier natural gas reserves to the Canadian market, and it is probable that original schedules for pipeline construction from the Mackenzie Delta and Arctic Islands may be deferred.

As reported earlier, the Company was not able, during negotiations in 1978, to arrange with Foothills Pipe Lines (Yukon) Ltd., suitable terms for joining the Alaska Highway project.

The Polar Gas Project has been actively investigating a plan which would combine Canadian gas reserves in the Arctic with gas reserves in the Mackenzie Delta and Beaufort Sea.

During 1978 TransCanada undertook a $52,000,000 program of upgrading, modernizing and adding to the security of its pipeline. In several locations original pipe was replaced with thicker-walled pipe following increases in population density. The requalification of 20-inch line between Toronto and Montreal and the 12-inch Ottawa lateral was completed.

International PipeLine Engineering, the Company's wholly owned subsidiary, undertook assignments on behalf of clients in Denmark, Great Britain, and Hungary.

A proposal under which natural gas imported from Algeria as LNG would have been transported through a 66-mile pipeline to be built from a regasification plant in Saint John, New Brunswick, to connecting United States facilities at St. Stephen's, New Brunswick, has been rejected by the Department of Energy of the United States.

During 1978, TransCanada continued its studies of icebreaking LNG carriers for Arctic use, and of

high impact welding, which may have special application to Arctic pipelines. Studies into the production of hydrogen and heavy water by electrolysis were also continued.

A significant milestone in the Company's history occurred on October 1, 1978, when the last sinking fund payment was made to holders of the original series of pipeline bonds issued by the Company.

Several changes occurred on the Board of Directors of the Company during 1978. During the third quarter, the Canadian Pacific group sold its share holdings in TransCanada to Dome Petroleum Limited, and after acquiring additional shares from others Dome now owns approximately 22.5% of the outstanding common shares. Following the resignations from the Board of Directors of Robert W. Campbell, Ian D. Sinclair and John M. Taylor of the Canadian Pacific group, John M. Beddome, John P. Gallagher and William E. Richards of Dome were elected to fill these vacancies. Robert H. Jones, President and Chief Executive Officer of The Investors Group in Winnipeg, was elected as a Director at the Annual Meeting.

The Board of Directors wish to express, on behalf of all the shareholders, their sincere gratitude for the contributions made by Mr. Campbell, Mr. Sinclair and Mr. Taylor, to the progress of TransCanada PipeLines over their many years of service as Directors.

J. Ross Tolmie, Q.C., who has reached the age of retirement, will be leaving the Board of Directors in April, 1979. Mr. Tolmie has been a Director of TransCanada since 1951, and played a leading role in securing the regulatory approval of the construction of the Company's initial pipeline system. Throughout his years of service Mr. Tolmie has provided the Company with invaluable counsel on legislative, regulatory and taxation matters, and on public affairs generally. His fellow Directors wish to record their appreciation for his invaluable contribution to the Company from the time of its incorporation.

A. A. Wilkins was appointed Vice President, Gas Supply during 1978.

Early in January, 1979, J. G. C. Weir, Vice President, Corporate Services, passed away. Mr. Weir had been an employee of the Company since 1956. The Board of Directors and Officers of the Company extend their sincere condolences to his family.

During 1978 the employees of TransCanada continued to demonstrate their competence, loyalty and efficiency in carrying out the business and operation of the Company. The twenty years of growth and progress by your Company is directly associated with the skills and experience of TransCanada men and women. The Directors are very grateful for their dedicated efforts.

On behalf of the Board,

Chairman and Chief Executive Officer

Toronto, Canada
March 6, 1979

Commencing with its Annual Report for 1979, TransCanada PipeLines will be reporting its operations in metric terms. The use of metric in internal Company operations began on January 2, 1979. To convert any of the quantities in this report to metric units, the following is a list of simplified approximate conversion factors:

To Convert	**to**	**Multiply by**
Thousands of Cubic Feet (Mcf)	Cubic metres (m^3)	28.3
Billions of cubic feet (Bcf)	Millions of cubic metres ($10^6 m^3$)	28.3
Trillions of cubic feet (Tcf)	Billions of cubic metres ($10^9 m^3$)	28.3
Miles	Kilometres (km)	1.6
Inches	Millimetres (mm)	25
Millions of Btu (MMBtu)	Gigajoules (GJ)	1.05
Horsepower (hp)	Kilowatts (kW)	0.75
Pounds per square inch (psi)	Kilopascals (kPa)	6.9

Year in Review

City Hall,
Quebec City.

Gas Supply

Traditional Producing Areas. In 1978 TransCanada estimates that new discoveries and net appreciation of established gas reserves in Alberta amounted to 4 Tcf or 1.4 Tcf above the Alberta Energy Resources Conservation Board's (AERCB) long-term growth rate of 2.6 trillion cubic feet of gas.

Approximately 200 gas wells were drilled in British Columbia and reserve growth in 1978 exceeded the long-term average of some 450 billion cubic feet per year in that province.

Gas well drilling in Saskatchewan declined substantially compared to the 1977 level. As a result, proved remaining reserves for the province are expected to decline slightly.

The AERCB estimated that as of year end 1977 TransCanada had contracted 35% of the province's total remaining natural gas reserves. Additional purchases of natural gas were not required during the year. Producer drilling activity on lands under existing contracts resulted in an appreciation of reserves and increased the Company's contract reserves by one trillion cubic feet of gas. Production from reserves under control of the Company amounted to 1.3 trillion cubic feet of gas. At December 31, 1978, the proved remaining marketable reserves committed to the Company, including those reserves under permits held by others, were about 28 trillion cubic feet of gas.

Maintenance of deliverability at a high rate on lands under contract to the Company combined with low rate of growth in markets resulted in TransCanada paying for 120 billion cubic feet of undelivered gas. Under the contracts with producers taking delivery of this gas will be deferred to a future period. During the year, TransCanada proposed and the industry accepted an allocation program which equitably distributed the prepaid gas volumes among producers, and prevented serious disruptions in the industry.

In mid-1978 the AERCB recommended, after hearing permit amendment applications by the

Company, that 91 fields be added to the Company's permit and the total volume of gas authorized for removal from Alberta be increased by 4.8 trillion cubic feet. Approval by the Alberta Government of such recommendations has not yet been received.

Long-Term Gas Supply Position. Alberta and British Columbia have gas reserves which are surplus to the reasonably foreseeable needs of those provinces, and are sufficient to meet the existing and increased levels of sales in Canada and the present levels of export sales through the mid-1990's.

The ultimate recoverable gas reserves in Alberta are estimated by the Alberta Energy Resources Conservation Board to be 110 Tcf. TransCanada estimates that the reserves are in the order of 130 Tcf. There is also a possibility that the exploration programs in the Deep Basin could be of major future significance to Canada's gas supply.

To the reserves in conventional areas must be added the 5.3 Tcf of frontier reserves of the Mackenzie Delta and the nearly 14 Tcf of reserves in the Arctic Islands, which could be made available to southern markets.

Canadian Arctic Frontier Reserves. Throughout 1978, TransCanada continued to support the Polar Gas Project and to act as Project Manager. Polar Gas currently has applications before the National Energy Board and the Department of Indian Affairs and Northern Development for the necessary approvals to construct and operate a natural gas pipeline from Melville Island in the High Arctic to an interconnection with the TransCanada system at Longlac, Ontario. The applications by Polar Gas propose a 2,338 mile pipeline system capable of receiving 2.1 Bcf of natural gas per day.

An environmental statement was filed with regulatory authorities in March, 1978. Socio-economic statements for the applied for route were completed during the year and will

be ready for filing early in 1979.

In December, 1978 Polar Gas reported that additional new route options appeared to be available as a result of recent technological advances in deep sea pipelaying technology. The ability to construct a marine pipeline at greater depths and for longer distances than before has allowed Polar Gas to make preliminary examination of new routings from the Arctic Islands, via M'Clure Strait and Victoria Island to the mainland of Canada near Coppermine in the Northwest Territories.

Preliminary examination has revealed significant potential advantages including the possibility of combining gas reserves in the Arctic Islands with those in the Mackenzie Valley and Beaufort Sea area into a single transportation system.

Polar Gas has advised the National Energy Board that it plans to undertake necessary field work in M'Clure Strait in the spring of 1979 and by mid-year would expect to be in a position to confirm the feasibility of that particular crossing which is essential to the new routings now under study.

The connection of Canada's Arctic frontier, as proposed by Polar Gas, can help assure the Canadian goal of energy self-reliance as demand for energy continues to grow. Besides helping to meet forecast future deficiencies, a Polar Gas pipeline would provide significant net benefits to the Canadian economy and provide long-term assurance of additional supplies that would be available to markets served by TransCanada.

Marketing

Canadian sales in 1978 increased to 839.4 Bcf over the 1977 sales volume of 819.1 Bcf. Export sales were down from 291.6 Bcf in 1977 to 258.9 Bcf in 1978. In 1977, emergency exports of 31.9 Bcf were made by the Company which were not repeated in 1978.

Canadian sales are expected to be down slightly in 1979 reflecting a large reduction in deliveries to an electrical generating station in Ontario. While sales to residential and commercial customers are increasing every year, it takes many thousands of these sales to compensate for the loss of a large industrial load.

The Company filed an application on April 4, 1978, with the National Energy Board to extend its facilities to Trois-Rivières and Bécancour in the Province of Quebec. The Company will be amending its application to include facilities to Quebec City and the Eastern Townships area.

Additional short-term export sales may be made on an interruptible basis to United States customers. The Company and the United States customers have entered into gas sales contracts and amendments to the export licenses were made by the National Energy Board on December 7, 1978, which allow the export of larger daily quantities until November 1, 1979. This allows quantities previously authorized but not delivered to be exported. The exports cannot commence until approvals are obtained from the United States regulatory authorities.

The Company has also filed an application to extend the export of gas presently authorized for export to Midwestern Gas Transmission under License No. GL-1 from 1980 to 1985.

In early February 1979, TransCanada entered into a contract, subject to regulatory approval, for the sale to Consolidated Natural Gas Limited, commencing on November 1, 1980, of a daily volume of up to 200,000 Mcf per day for export to Northern Natural Gas at Emerson, Manitoba. TransCanada and its United States affiliate, Great Lakes Gas Transmission Company, already transport Montana-produced natural gas for Northern Natural and its Canadian affiliate.

Welding of 36-inch pipe near Orillia, Ontario.

Rate Regulation. The price at which TransCanada sells gas is set by the Government of Canada in relation to the cost of crude oil. Generally speaking, the price the Company pays for gas is determined by establishing an imputed Alberta border price by deducting from the selling price the Company's cost of service as determined by the National Energy Board and deducting from such imputed Alberta border price TransCanada's Alberta cost of service as determined by the Alberta Petroleum Marketing Commission.

The National Energy Board established the Company's new cost of service effective August 1, 1978. Incorporated in that cost of service was a major change in the method of accounting for income taxes. Under the new system of normalized tax accounting an amount was included in the Company's current cost of service for both current income taxes payable and also for deferred income taxes which will be paid at a future date. There was also included an increase in the rate of return on rate base from 10.2% to 10.75% and the recovery of increased operating costs.

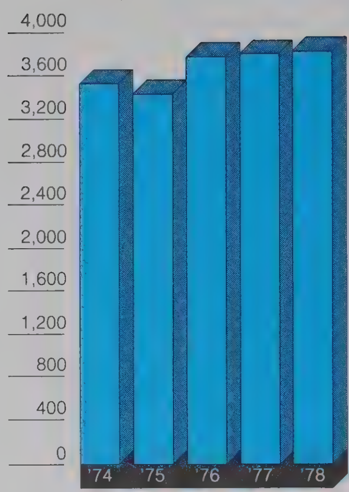
In February 1979 the Company filed a rate application with the National Energy Board seeking an increase in its cost of service effective August 1, 1979. The Company is seeking to recover higher costs and to have the rate of return on rate base increased to 11.22%.

The Alberta Public Utilities Board confirmed the decision of the Alberta Petroleum Marketing Commission to include in the Company's Alberta cost of service the 1977 carrying charges related to gas paid for in 1977 with delivery deferred to a later date.

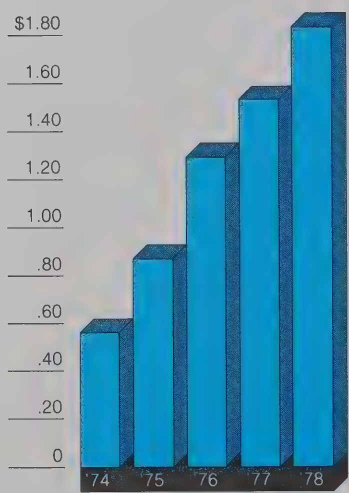
TransCanada was granted approval by the Alberta Petroleum Marketing Commission on February 16, 1979 to continue to have the carrying costs associated with prepaid gas volumes recovered in its Alberta cost of service.

The Company's Alberta cost of service will be lower because of two decisions by the Alberta Public Utilities Board with respect to certain charges of Alberta Gas Trunk Line. The first decision ordered a reduction of the depreciation rates and the charging of income taxes on a flow through rather than a normalized basis. The latter order is being appealed. The second decision dealt with the rate of return that Trunk Line is permitted to charge shippers. The Public Utilities Board reduced the rate of return from 10.75% to 10.55% for 1978 and this resulted in a refund to the Company of approximately $800,000. This amount, being part of TransCanada's Alberta cost of service, was refunded in its entirety to the Alberta producers.

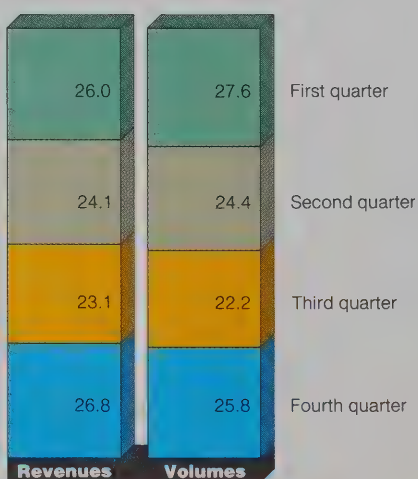
An inquiry conducted by the Alberta Public Utilities Board into the principles and methods which should apply to the determination of the Alberta cost of service commenced in the fall of 1976 and recommendations were released in November, 1978.



Maximum day gas delivered for sales and transportation
Millions of cubic feet



Average sales rate Canadian sales
Dollars per Mcf



Distribution of sales revenues and volumes
Percentage by calendar quarter

Annual Gas Sales and Transportation (Volumes in Millions of Cubic Feet)

Sales	**1978**	1977	1976	1975	1974
Saskatchewan Power Corporation	**18,179**	19,439	6,439	2,738	3,902
Plains-Western Gas (Manitoba) Ltd.	**8,693**	8,507	8,365	8,314	7,986
Inter-City Gas Limited	**8,342**	8,191	7,739	7,239	7,906
Northern & Central Gas Corporation Limited					
Ontario Division	**122,332**	122,641	120,710	110,973	117,762
Greater Winnipeg Gas	**51,926**	45,493	47,560	45,516	50,362
Gaz Metropolitain, inc.	**75,112**	66,911	66,839	68,876	71,171
The Consumers' Gas Company	**311,412**	312,310	307,524	304,201	296,140
Union Gas Limited	**240,965**	233,239	240,575	238,056	232,670
Kingston Public Utilities Commission	**2,455**	2,374	2,272	2,146	2,141
Total Canadian	**839,416**	819,105	808,023	788,059	790,040
Michigan Wisconsin Pipe Line Company	**18,250**	18,250	18,300	18,250	18,250
Midwestern Gas Transmission Company	**116,420**	117,409	119,315	118,297	119,797
Great Lakes Gas Transmission Company	**107,083**	106,525	109,496	108,650	110,279
Inter-City Gas Limited	**6,730**	7,268	7,705	7,206	7,851
Niagara Gas Transmission Limited	**6,231**	5,956	5,537	5,497	5,556
Vermont Gas Systems, Inc.	**4,224**	4,263	4,066	4,124	4,891
Columbia Gas Transmission Corporation	**—**	30,000	—	—	—
Niagara Mohawk Power Corporation	**—**	1,300	—	—	—
National Fuel Gas Supply Corporation	**—**	599	—	—	—
Total U.S. Export	**258,938**	291,570	264,419	262,024	266,624
Total Sales	**1,098,354**	1,110,675	1,072,442	1,050,083	1,056,664
Transportation	**59,800**	59,668	55,540	50,467	39,746

Future Natural Gas Marketing Policy

Canadians must develop new markets for natural gas now in both Canada and the United States so that incentive for exploration will continue at a high level.

The United States has not been standing still in the matter of gas supply. The conversion of power plants from gas to coal, the freeing of intrastate gas to the interstate market and increased drilling have all combined to provide over an additional trillion cubic feet per year of domestically-produced gas to the United States interstate market. It is also possible that volumes of natural gas from Mexico will be made available to United States markets.

Although the short-term United States markets for natural gas have been curtailed and most of the distribution companies have sufficient gas to serve their high-priority customers, a substantial market still exists for Canadian gas in the United States in the medium and longer term.

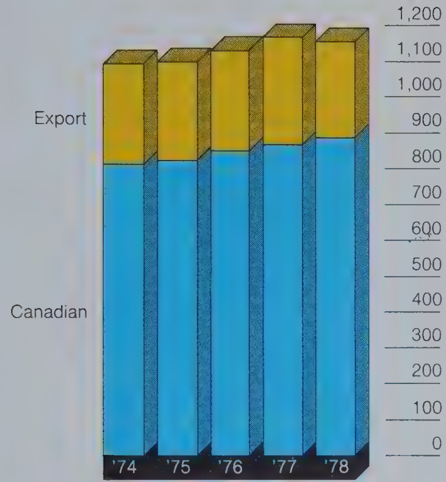
In order to accelerate the sales of natural gas in Canada the Federal Government and the Government of Alberta are presently discussing incentives to possible new markets for additional volumes from the Province of Alberta.

The federal and provincial governments have affirmed the importance of reducing dependence on foreign sources of oil. All of them have agreed that intensive programs of conservation, substitution among energy sources, and research and development for new energy technologies should be pursued. They have also agreed to collaborate in the acceleration of major energy developments wherever appropriate.

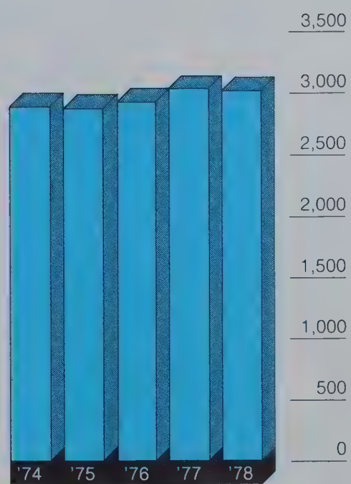
To expedite the conversion from imported foreign oil to gas, a number of government initiatives would be helpful.

The first, obviously, is that gas must be priced competitively. The second is that there could be sales tax rebates on new equipment for consumers wishing to convert from oil to gas in areas where natural gas is now available. Third, there could be accelerated tax write-offs, at both the federal and provincial levels, for industrial and commercial purchasers of new gas-fired equipment. This should also apply to conversions of existing equipment. Fourth, the provinces and municipalities receiving the benefit of investment in gas facilities for the first time could forego both provincial and municipal taxation of gas transmission and distribution facilities in the new areas during a development period.

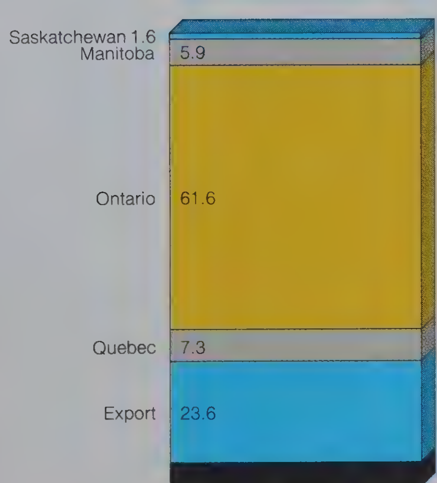
New pipe is lowered into the ditch at Trout Creek, south of North Bay, Ontario.



Gas delivered for sales and transportation
Millions of cubic feet



Average daily sales
Millions of cubic feet



Where the gas was sold in 1978
Percentage of volume sales

It is obvious that there are several prerequisites to any proposal to displace imports of oil into Canada. The first is that the surplus of heavy residual oils on the domestic market must be removed. The potential new sales which would result from displacement of oil in eastern Canada could reach a total of 297 Bcf annually. However, as gas prices rise, some of the natural gas loads may be lost to imported coal.

If the indicated degree of displacement could be reached, the benefit would be an annual savings by 1990 of $900 million of foreign exchange reserves, assuming a price of $18 per barrel for imported oil. A similar foreign exchange benefit could be achieved in whole or in part by increasing natural gas exports to the United States.

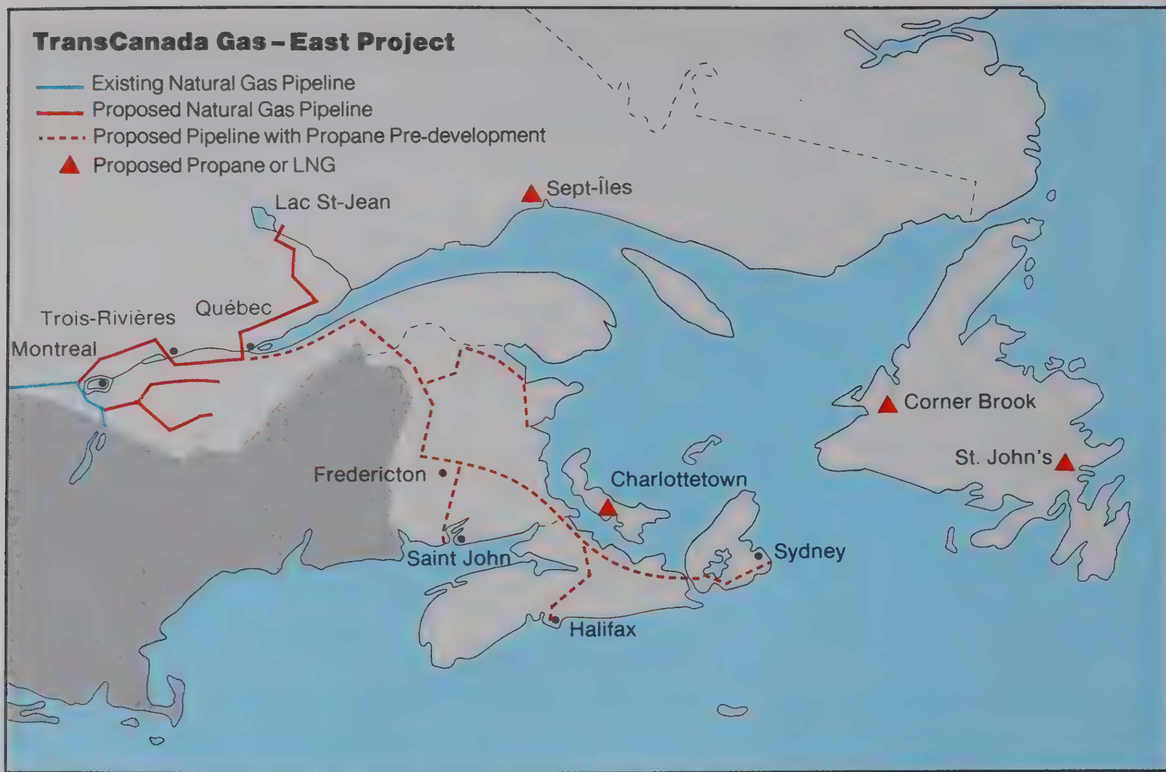
During the next 10 or 12 years, expansion into new areas in Canada could involve expenditures of approximately $1.5 billion on new transmission systems and in additions to existing transmission systems. It would also involve an estimated expenditure in the order of $1 billion on existing and new distributing systems, and in the order of $200 million on new gathering facilities in Alberta. This would produce a continuing impact on the Canadian economy.

If Canada is to embark on a program of displacing imported crude oil, there is a great deal to be said for embarking on this program now, at a time when there are relatively few major capital programs under way in Canada.

The benefits of such expansion would extend directly or indirectly to every province of Canada. The spin-off benefits of this type of replacement and expansion in terms of new employment would be significant. The availability of natural gas in areas of Canada not now served by gas could attract new industries or improve productivity at existing plants.

Advantages of Eastern Extension of Pipeline Facilities. The extension of the Company's pipeline system in the Province of Quebec to markets east of Montreal would make a secure supply of Canadian natural gas available in major market areas that are not now served with natural gas and are heavily dependent on imported crude oil and refinery products. Realization of the project would further the Canadian Government's aim of self-reliance in energy.

The TransCanada project would entail the extension of transmission facilities from Montreal to Quebec City along the St. Lawrence River. The existing transmission network south of Montreal



would be expanded into the Eastern Townships. About 800 miles of new pipeline facilities including both main transmission lines and sales laterals would be built in Quebec at an estimated cost in excess of $300 million.

This extension would require a substantial looping program on the existing TransCanada system, possibly including a line from the North Bay area to Montreal down the Ottawa Valley.

TransCanada has also conducted feasibility studies to explore various options available for an extension of natural gas transmission service to the Atlantic Provinces.

Closely allied to the overall project are studies concerning the transportation of natural gas in liquid form from the Arctic frontier by icebreaker carrier to a receiving and regasification terminal for delivery into the new pipeline facilities.

Based on projection of current icebreaking technology and surveys in the Arctic regions, Class 10 LNG carriers of a size capable of navigating Canadian Arctic shipping channels without icebreaker assistance appear feasible.

An LNG transportation system for Arctic reserves would make possible an additional source of gas for Canada's long-term needs and, as well, a convenient source of gas for any area of the Atlantic Provinces not connected to natural gas reserves by pipeline. Having a system in place to handle LNG would be a great advantage to the future development of offshore Arctic Islands reserves.

TransCanada views the pipeline extension and associated projects as major steps in the creation of a flexible gas transmission system that would be compatible with the location and size of new gas supply areas, whether they be developed in western Canada, in the Arctic, or off the eastern seaboard.

Special mufflers to minimize engine exhaust noise and yard piping at Station 130, Maple, Ontario.

Engineering and Operations

1978 Program. In 1978 significant additions and modifications to TransCanada's pipeline system, which will improve operating efficiency and security, were completed at a cost of $52,197,000.

In northern Ontario, 13 miles of pipeline were replaced as part of the Company's rerating program that will permit an increased operating pressure on the system between Winnipeg, Manitoba and North Bay, Ontario. This will result in increased capacity for throughput of 27 Bcf, or an annual fuel saving of $1,368,000 in 1978/79.

The Company also replaced 9 miles of existing pipe with thicker-wall pipe because of population density criteria established for the pipeline. Another 211 miles of pipe were retested, and electronically inspected for defects which might have developed in the pipe over years of continuous service.

A two-year program was also initiated in 1978 to install sophisticated equipment that will automatically isolate pipeline sections in emergencies.

Regular performance tests of compression equipment, and plant modifications have continued the emphasis placed on gas conservation, and also ensured that the pipeline system operated at optimum efficiency during 1978.

Several studies have been undertaken into possible uses of waste heat from compressors, in an effort to conserve fuel and better utilize energy consumed by the Company. As part of its energy conservation program, TransCanada is offering research grants totalling $100,000 to Canadian universities.

TransCanada PipeLines has continued to pursue an aggressive program with the application of the electronic pig to detect different types of pipeline defects.

This program required extensive research into certain magnetic principles. The resulting equipment was tested with another major gas transmission company as part of a joint engineering research study, and its use has been included in the Company's pipeline requalification program.

Future Program. In 1979, TransCanada, subject to the approval of the National Energy Board, will undertake a construction program expected to cost approximately $59,000,000. This program includes replacement of 39 miles of pipeline because of requirements for increased operating pressures, and because of increases in population density. In addition, heat exchangers (regenerators) will be installed to recover more efficiently the waste heat from the exhaust of several older gas turbines. The Company also proposes to construct 12.1 miles of 30-inch loopline between Toronto and Montreal.

International PipeLine Engineering Limited. The Company's wholly owned subsidiary, International PipeLine Engineering Limited (IPEL) provided consulting services in Denmark during 1978 in the areas of gas purchase and gas transportation contracts and overall pipeline planning. IPEL also entered into contracts with clients in western Canada and in Hungary to provide compressor station supervisory control software systems, and carried out an assignment in Canada for an Australian client. Extensive electronic pig surveys on the Company's system precluded the offering by IPEL of these services to others during 1978. IPEL continues to pursue actively new international business opportunities and a further expansion of its activities to new areas is expected in 1979.

Research and Development

High Impact Welding. The Company has continued with the development of a system of welding pipelines by the use of explosives. Research work has been conducted during the past three years, primarily on large-diameter pipe and high-grade steel, and has confirmed that this welding technique meets all technical requirements.

This application is of particular interest to pipeline-operating companies because it would give the companies an alternative method of welding and, in the case of northern pipelines, would extend the construction season and significantly reduce costs.

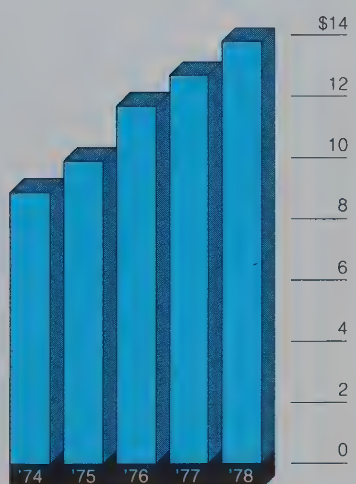
A demonstration of this technique has been scheduled for mid-1979 in order to assess the savings which might be achieved by high impact welding.

Hydrogen/Heavy Water. The investigation into the long-term outlook of producing hydrogen and heavy water from surplus hydro-electric power and utilizing a recently-developed catalyst as a supplement to TransCanada's gas stream is in the final stages of completion. The study has yielded a great deal of valuable information on the technologies and economics involved.

This custom-designed sales meter station near Toronto at Lisgar, Ontario, blends with adjacent housing and illustrates the high standard of TransCanada's environmental policies.

Top: A delegation from the People's Republic of China visits Compressor Station 41 at Ile des Chênes, Manitoba.
Centre: Visitors from Venezuela inspect the Gas Control Centre, Toronto.
Bottom: This portable transfer compressor collects and conserves natural gas during pipe testing and construction operations.

Gas transmission plant growth
Millions of dollars



Common Shareholders' Equity per Share at year end
Dollars

Personnel

In order to meet technological advances, programs have been implemented which provide training in many specialized technical areas, as well as in general supervisory and management skills for the Company's 1631 employees. In 1978, 120 employees undertook technical training courses, 266 employees undertook general supervisory and management courses, and a further 72 employees participated in a variety of educational courses after hours which were subsidized by the Company. In addition, extensive training was undertaken for all employees for metric conversion.

Shareholders

The number of TransCanada's common shareholders increased by 4.8% from 27,341 at the end of 1977 to 28,655 at the end of 1978. Residents of Canada made up 91.1% of the Company's common shareholders and held 97.7% of the Company's outstanding common shares. During 1978 the market price per common share varied from a low of $14.00 to a high of $19.00. During 1977 the market price varied from a low of $12.125 to a high of $16.625.

The geographical breakdown of shareholders and shareholdings is as follows:

	Number of Shareholders	Number of Shares
Alberta	2,867	10,305,707
British Columbia	4,344	1,759,845
Manitoba	1,252	3,174,589
New Brunswick	424	182,876
Newfoundland	56	26,821
Nova Scotia	831	644,394
Ontario	12,284	15,609,990
Prince Edward Island	89	41,174
Quebec	3,236	7,250,974
Saskatchewan	710	201,183
Yukon	7	1,385
Total Canadian	26,100	39,198,938
United States	2,336	730,203
Others	219	181,903
Total Non-Resident	2,555	912,106
Total	28,655	40,111,044

Financial Commentary

Consolidated net income applicable to common shares was $87.9 million, up from $78.3 million in 1977. Record operating revenues of $2.2 billion reflect gas sales and transportation rate increases on February 1 and August 1, 1978 following agreements by the Governments of Canada and Alberta to increase gas prices.

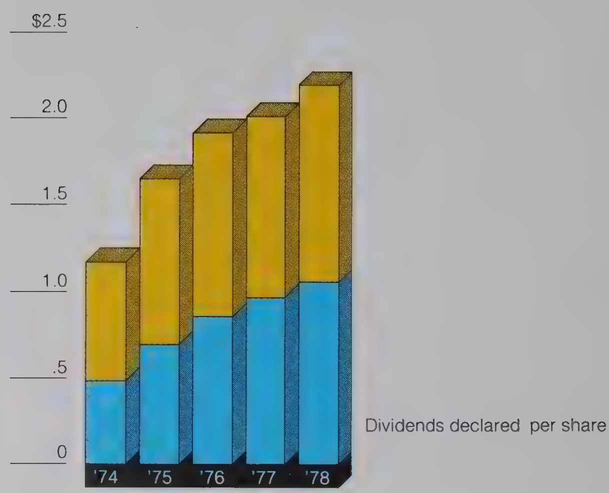
The Company's current rates incorporate an increase in its authorized rate of return on rate base to 10.75% and a change from the flow through to the normalized method of accounting for income taxes effective August 1, 1978.

Average common shares outstanding in 1978 increased by 2.31% to 39,931,361. This increase was primarily due to the conversion of $2.65 and $2.75 preferred shares. On May 30, 1978, the remaining outstanding $2.75 preferred shares were redeemed by the Company.

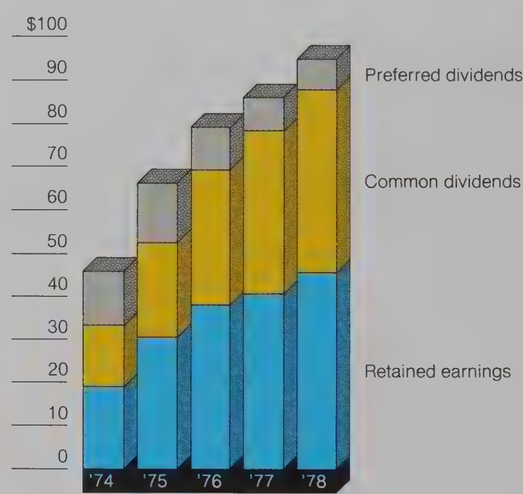
Basic and fully diluted earnings per share increased from $2.01 to $2.20 and from $1.95 to $2.18 respectively. On December 6, 1978, the Board of Directors increased the annual dividend rate by 12.6% from $1.03 to $1.16 per common share.

Total dividends declared by the Company in 1978 amounted to $49.6 million. The cost of long-term debt retired in accordance with sinking and purchase fund obligations amounted to $60.5 million. This included the final sinking fund payments on the 1978 Series First Mortgage Pipe Line Bonds which were sold in 1957 and 1958 as part of TransCanada's original financing.

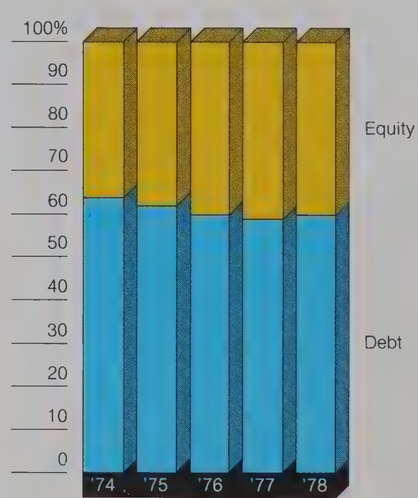
On December 29, 1978, the Company paid for approximately 120 Bcf of gas, delivery of which was not taken during the contract year ended October 31, 1978. Prepayments for this volume and for the 7 Bcf of gas deferred in 1977 totalled $153.9 million as at December 31, 1978. The Company's current gas supply position is such that it anticipates it will continue to pay for, but defer taking delivery of, additional volumes of gas for several years unless substantial new markets are attached and existing export licenses renewed. Based on the Company's current supply estimates and market forecasts, all gas the Company will be required to pay for but not take will be recovered within the time periods specified in the Company's gas purchase contracts. These prepayments were financed by the sale of five-year term notes to the Company's banks.



Earnings per Common Share
Dollars



Distribution of net income
Millions of dollars



Debt equity ratio
Percentage

Great Lakes Gas Transmission Company

The Company owns a fifty percent interest in Great Lakes Gas Transmission Company, which operates 1,169 miles of pipeline from the international boundary near Emerson, Manitoba, across the States of Minnesota, Wisconsin and Michigan to points on the international border near Sault Ste. Marie and Sarnia, Ontario. The Great Lakes pipeline system consists of 1,099 miles of 36-inch pipe, 11 miles of 24-inch pipe, 15 miles of 12-inch pipe and 44 miles of 10-inch pipe and a total of 345,500 horsepower installed at 13 compressor stations.

1978 Operations. Great Lakes Gas Transmission Company's 1978 operations resulted in net income of $20,499,000 which includes a credit of $1,682,000 taken during the year for prior years use tax and interest accruals that will not be paid as a result of a ruling by the U.S. Supreme Court in November 1978. This net income figure compares with $19,682,000 in 1977.

Great Lakes delivered for transportation or sale a total of 410.9 Bcf of gas of which 291.3 Bcf or 71%, was redelivered to TransCanada PipeLines for sale in eastern Canada with the balance, 119.6 Bcf, delivered to its customers in the United States.

The average cost of gas purchased by Great Lakes during 1978 was $2.15 (U.S.) per million Btu. In 1977 the average cost was $1.92 (U.S.) per million Btu. A provision in Great Lakes' tariff permits recovery of increased gas costs from its customers.

Construction. The 1978 construction program amounted to an expenditure of $18,786,000 and included installation of 36-inch loopline in Michigan to transport natural gas for storage facilities being developed by an affiliated company, and 23.9 miles of 36-inch loopline in Minnesota to accomplish compressor fuel savings and security of service. The Michigan portion of the program has not been totally completed but is expected to be in service by early spring of 1979.

The 1979 construction program is estimated to cost $21,500,000 of which $13,600,000 is anticipated to be expended in the installation of an additional 25 miles of 36-inch loopline in Minnesota and Wisconsin. Plans also call for expenditures of $1,690,000 for further development of the storage program, and $726,000 to upgrade compressor equipment at Station 3 which will result in economies of operation and additional horsepower.

Dividends. In 1978 Great Lakes declared and paid dividends totalling $12,000,000.

Rates. On November 30, 1978 Great Lakes filed revised tariff schedules with the Federal Energy Regulatory Commission (FERC) for an increase in its rates for gas transported and sold. As ordered by FERC, the new rates will become effective June 1, 1979 subject to the refund of any portion ultimately found by FERC to be above just and reasonable rates. Based on projected contract volumes of gas for sale and transportation, the newly filed rates are expected to generate $17,100,000 in additional annual revenues.

Summary Balance Sheet

(Thousands of United States dollars)

Assets	1978	1977
Plant, property and equipment	$380,372	$362,317
Less: accumulated depreciation	111,396	97,355
	268,976	264,962
Current assets	48,991	58,182
Deferred charges	282	262
	$318,249	$323,406

Shareholders' Equity and Liabilities	1978	1977
Common stock	$ 50,000	$ 50,000
Retained earnings	36,260	27,761
First mortgage pipeline bonds	152,420	162,500
Current liabilities	60,252	67,972
Deferred credits	19,317	15,173
	$318,249	$323,406

Summary Statement of Income and Retained Earnings

(Thousands of United States dollars)	1978	1977
Operating revenues	$309,469	$293,313
Cost of gas sold	180,891	168,092
Operating expenses	60,384	63,802
Depreciation and amortization	14,044	14,195
Income taxes	15,980	15,965
Investment tax credit	(3,000)	(1,266)
Interest (net)	11,325	12,853
	288,970	273,631
Net income	20,499	19,682
Retained earnings at beginning of year	27,761	30,079
	48,260	49,761
Dividends declared	(12,000)	(22,000)
Retained earnings at end of year	$ 36,260	$ 27,761

Side-boom tractors guide a section of 36-inch diameter pipe across the Flint River during Great Lakes Gas Transmission's summer looping program near Otisville, Michigan.

Consolidated Statements

Year ended December 31, 1978 (with comparative figures for 1977)

Income		**1978**		1977
		($000)		($000)
Operating Revenues				
Gas sales		**2,171,627**		1,851,644
Gas transportation and other		**21,586**		18,681
		2,193,213		1,870,325
Operating Expenses				
Cost of gas sold, gathering charges and acquisition costs		**1,703,611**		1,447,720
Transmission by other companies		**113,228**		96,181
Operation and maintenance		**58,177**		56,719
Compressor fuel		**64,071**		65,098
Depreciation		**52,113**		49,252
Taxes — other than income		**13,373**		12,594
Income taxes (Note 1(a))—current		**26,400**		—
—deferred		**3,100**		—
		2,034,073		1,727,564
Operating income		**159,140**		142,761
Other Income				
Allowance for funds used during construction		**1,217**		3,626
Equity in net income of Great Lakes Gas Transmission Company (Note 1(b))		**7,975**		9,411
Other (net)		**1,533**		2,894
		10,725		15,931
Income before financial charges		**169,865**		158,692
Financial Charges				
Interest on long-term debt		**71,250**		70,247
Amortization of debt discount and expense less gain on purchase of debt		**2,083**		1,565
Other interest expense		**1,433**		697
		74,766		72,509
Net Income for the Year		**95,099**		86,183
Net Income Applicable to Common Shares				
Net income for the year (above)		**95,099**		86,183
Less provision for dividends on preferred shares		**7,173**		7,860
Net income applicable to common shares		**87,926**		78,323
Net Income per Common Share				
Basic	**$**	**2.20**	$	2.01
Fully diluted		**2.18**		1.95

See accompanying summary of significant accounting policies and notes to consolidated financial statements.

Consolidated Balance Sheet

December 31, 1978 (with comparative figures at December 31, 1977)

Assets	**1978**	1977
	($000)	($000)
Plant, Property and Equipment — at cost	**1,766,893**	1,720,910
Less accumulated depreciation	**402,971**	358,270
	1,363,922	1,362,640
Investment in Great Lakes Gas Transmission Company — at equity (Note 1(b))	**42,416**	40,360
Payments on Future Gas Supply (Note 2)	**153,853**	7,590
Current Assets		
Cash	**3,142**	3,910
Accounts receivable	**232,193**	194,444
Materials and supplies — at cost	**13,709**	12,410
Line pack and gas stored underground — at cost	**68,407**	63,347
Prepayments and deposits	**909**	878
	318,360	274,989
Deferred Charges		
Unamortized debt discount and expense	**13,571**	15,126
Arctic pipeline projects	**7,097**	8,533
Other	**13,202**	9,240
	33,870	32,899
	1,912,421	1,718,478

On behalf of the Board:

J. W. Kerr, Director

J. Ross Tolmie, Director

Shareholders' Equity and Liabilities	**1978**	1977
	($000)	($000)
Shareholders' Equity		
Capital stock (Note 3)		
First preferred shares of the par value of $50.00 per share		
Authorized — 7,100,113		
Outstanding		
— $2.80 cumulative redeemable shares		
1978 — 761,373 (1977 — 782,821)	**[illegible]**	39,141
— $2.75 cumulative redeemable convertible shares — series A		
1978 — Nil (1977 — 32,478)	**—**	1,624
— $4.50 cumulative redeemable retractable shares — series B		
1978 — 1,000,000 (1977 — 1,000,000)	**40,000**	50,000
Second preferred shares of the par value of $50.00 per share		
Authorized — 7,361,681		
Outstanding		
— $2.65 cumulative redeemable convertible shares — series A		
1978 — 134,731 (1977 — 261,583)	**6,737**	13,079
Common shares of the par value of 33⅓¢ per share		
Authorized — 75,000,000		
Outstanding		
1978 — 40,111,044 (1977 — 39,487,613)	**13,370**	13,162
	108,176	117,006
Contributed surplus	**271,714**	263,486
Retained earnings	**270,650**	225,131
	650,540	605,623
Long-Term Debt (Per Schedule and Note 4)	**917,026**	822,299
Deferred Income Taxes (Note 1(a))	**3,100**	—
Current Liabilities		
Long-term debt due within one year	**46,069**	52,831
Notes payable	**30,000**	11,000
Accounts payable	**205,270**	193,333
Income taxes payable (Note 1(a))	**[illegible]**	—
Interest accrued	**20,637**	21,355
Dividends payable	**13,379**	12,037
	341,755	290,556
	1,912,421	1,718,478

See accompanying summary of significant accounting policies and notes to consolidated financial statements.

Consolidated Statements

Year ended December 31, 1978 (with comparative figures for 1977)

Contributed Surplus

	1978	1977
	($000)	($000)
Balance at beginning of year	263,486	249,005
Premium on common shares issued (Note 3)	8,006	16,626
Credit resulting on redemption of preferred shares (Note 3)	222	329
	271,714	265,960
Capital stock expense written off	—	2,474
Balance at end of year	271,714	263,486

Retained Earnings

	1978	1977
	($000)	($000)
Balance at beginning of year	225,131	184,656
Net income for the year	95,099	86,183
	320,230	270,839
Dividends declared		
Preferred	7,132	7,786
Common	42,448	37,922
	49,580	45,708
Balance at end of year (Note 5)	270,650	225,131

Changes in Financial Position

	1978	1977
	($000)	($000)
Source of Funds		
Funds provided from operations	147,905	131,744
Dividends from Great Lakes Gas Transmission Company	5,919	10,149
Net proceeds from issue of securities		
Long-term debt	154,000	73,499
Common shares	591	870
	308,415	216,262
Use of Funds		
Additions to gas transmission plant (net)	52,197	88,075
Payments on future gas supply	146,263	7,590
Arctic pipeline projects	1,617	5,495
Reduction of long-term debt	60,497	63,142
Purchase and cancellation of preferred shares	1,156	1,219
Redemption of $2.75 first preferred shares — series A	37	—
Dividends on preferred and common shares	49,580	45,708
Other (net)	4,896	4,739
Change in working capital during the year	(7,828)	294
	308,415	216,262

See accompanying summary of significant accounting policies and notes to consolidated financial statements.

Consolidated Schedule of Long-Term Debt

	1978 ($000)	1977 ($000)
First mortgage pipe line bonds		
Due 1978		
5¼% U.S. series	—	5,786
5½% Canadian series	—	1,308
6¼% U.S. series	—	790
6¾% Canadian series	—	311
Due 1983		
5¾% U.S. series — U.S. $25,307,000	27,255	32,876
6¼% Canadian series	12,180	14,693
Due 1985		
5⅛% U.S. series — U.S. $15,376,000	16,584	19,006
Due 1987		
6⅝% U.S. series — U.S. $62,880,000	67,761	75,002
Due 1992		
8¾% Canadian series A	76,850	82,400
8¾% Canadian series B	32,160	34,400
Due 1993		
8⅜% Canadian series A	53,010	56,844
8⅜% Canadian series B	8,320	8,880
	294,120	332,296
Sinking fund debentures		
Due 1990		
10% series A	42,340	44,660
9¾% series B	50,443	53,600
Due 1991		
9% series C	42,380	43,660
Due 1992		
8⅞% series D	87,258	90,838
Due 1993		
9% series E (Sinking fund commences in 1979)	89,574	91,800
Due 1995		
11½% series F (Sinking fund commences in 1981)	50,000	50,000
Due 1997		
9.60% series G (Sinking fund commences in 1983)	72,875	75,000
	434,870	449,558
Bank loans — Due 1983	154,000	—
Subordinated debentures		
Due 1987		
5.60% U.S. series — U.S. $12,455,000	12,455	14,583
5.85% Canadian series	36,111	37,767
	48,566	52,350
Income debentures		
Due 1979 to 1981		
7¼% series C to E	30,000	40,000
	961,556	874,204
Less — long-term debt due within one year		
Canadian $46,069,000 (1977 — $52,831,000)	44,530	51,905
	917,026	822,299

See note 4 to consolidated financial statements.

Summary of Significant Accounting Policies

Regulation – The Company, which owns a natural gas transmission system extending from the Alberta-Saskatchewan border across the Provinces of Saskatchewan, Manitoba and Ontario and through a portion of the Province of Quebec, is subject to the jurisdiction of certain regulatory bodies in connection with matters such as rates, construction, operations and accounting. Its rates are determined by the National Energy Board on a rate base, rate of return and cost of service basis.

The Company shares equally with American Natural Resources Company in the ownership of Great Lakes Gas Transmission Company, a United States corporation. Great Lakes, which owns and operates a pipeline system extending from Emerson, Manitoba through Minnesota, Wisconsin and Michigan to Sarnia, Ontario, transports a substantial volume of gas for the Company.

Principles of consolidation – The consolidated financial statements include the accounts of the Company and its subsidiaries, all of which are wholly owned. The operations of the active subsidiary company are relatively minor in comparison to the transmission operations of the Company and have therefore been included in the consolidated statement of income under the caption "Other Income – Other". The Company uses the equity method of accounting for its investment in Great Lakes Gas Transmission Company and has provided for withholding taxes on its share of the earnings of Great Lakes which may be distributed.

Depreciation – The Company's provision for depreciation expense is calculated on a straight-line basis using rates reflecting the economic and physical life of the assets in service. These rates are approved by the National Energy Board in accordance with its policy of permitting the recovery of undepreciated plant costs over the remaining service life of the assets as determined from time to time.

Depreciation is presently calculated using rates of 2¾% for pipeline, 3½% for compressor stations and other transmission plant and various rates for general plant equipment.

Allowance for funds used during construction – An allowance for funds used during construction has been charged to plant, property and equipment at a rate of 10.5% per annum.

Unamortized debt discount and expense – These costs are amortized by charges to expense over the remaining life of the respective issues or as debt is retired.

Arctic pipeline projects – The Company is amortizing accumulated costs for both the Canadian Arctic Gas and Polar Gas Projects. Costs incurred to July 31, 1978 are being written off to operating expenses over three years as recovered in authorized rates. The Company will apply to the National Energy Board to recover advances subsequent to that date of $612,000 on the same basis.

Translation of foreign currency – As described in note 1, foreign exchange translation relating to the Company's investment in Great Lakes Gas Transmission Company has been accounted for in accordance with recent recommendations of The Canadian Institute of Chartered Accountants on a prospective basis commencing January 1, 1978.

The Company's foreign currency transactions relating to its regulated utility operations have been translated to their Canadian equivalent using year end rates for current assets and liabilities and the greater of par or the rate in effect on dates of issue for long-term debt due after one year. These accounting practices are in accordance with the ratemaking process prescribed by the National Energy Board and differ from the Institute's recommendations. As gains or losses determined on this basis are used in the ratemaking process, the Company's prescribed translation practices are more appropriate in accounting for its regulated utility operations.

Deferred charges – other – As directed by the National Energy Board, differences between actual costs of transmission by other companies and the authorized costs included in cost of service are deferred. The amounts deferred during the period September 1, 1976 to May 31, 1978, aggregating $10,059,000, are presently being recovered in authorized rates over the 12 months which commenced August 1, 1978. The unrecovered balance of $5,868,000 at December 31, 1978 is included in deferred charges – other. From June 1, 1978 to December 31, 1978, the Company has continued to defer these differences aggregating an additional $3,114,000, including accrued carrying costs. As directed by the National Energy Board, these current deferred costs will be included in cost of service in a subsequent rate application.

In determining an appropriate rate of return on rate base for the Company, the National Energy Board considers, among other things, the carrying costs of the outstanding long-term debt. These carrying costs include estimated foreign exchange gains or losses on current maturities in accordance with the Company's translation policy, and any other anticipated gains or losses on reacquisition of debt. In its most recent rate decision, the Board directed that effective August 1, 1978, the Company establish additional deferral accounts to record variances between actual gains and losses and those estimated in deriving the Company's authorized rates. These deferred amounts, together with applicable carrying costs, will be included in a subsequent rate application for future recovery.

Net income per common share – Net income per common share is calculated using the weighted average number of common shares outstanding during the respective fiscal years. The calculation of net income per common share on a fully diluted basis assumes conversion of all securities and exercise of all rights which have a dilutive effect on earnings per share.

Approval by Management and the Board of Directors – These financial statements have been prepared taking into consideration events occurring between December 31, 1978 and January 19, 1979, the date of their approval by Management of the Company and the Board of Directors.

Notes to Consolidated Financial Statements

1. Changes in Accounting Policies

(a) *Income Taxes* – Effective August 1, 1978, the National Energy Board directed the Company, for ratemaking and accounting purposes, to follow the tax allocation method of recording income taxes applicable to its current utility operations.

Prior to that date, the Company followed the taxes payable method of recording income taxes for both ratemaking and accounting purposes and, as allowed by the relevant income tax provisions and regulations, certain deductions were claimed for income tax purposes in excess of the amounts charged to income for accounting purposes. By following this practice the Company has not recorded in its accounts nor recovered in its rates any provision for income taxes prior to August 1, 1978. If the relevant income tax provisions and regulations had not permitted such deductions, income taxes would have been payable in the approximate amount of $28,700,000 for the first seven months of 1978 ($38,700,000 for the year 1977) and to an accumulated amount of $263,800,000 at July 31, 1978.

As the provision for income taxes on the tax allocation method commencing August 1, 1978 is recovered in the Company's authorized rates, this change in accounting principles has no significant effect on the Company's net income.

In prescribing the tax allocation basis for utility income earned subsequent to August 1, 1978, the National Energy Board also recognized the potential future liability of the Company with respect to taxes deferred in the past. In its decision dated July, 1978, the Board noted that either the Company would need to revert to the taxes payable method of accounting when taxes payable exceed the tax allocation provision, or the unrecorded deferred tax liability would have to be amortized to cost of service starting at some point in the future. Because of this decision and since there is reasonable expectation that all deferred tax costs will be recovered in rates in the future, the Company has not recorded in its accounts any liability relating to taxes deferred prior to August 1, 1978.

(b) *Translation of Foreign Currency Financial Statements* – In September 1978 The Canadian Institute of Chartered Accountants issued accounting recommendations related to the translation of foreign currency transactions and foreign currency financial statements.

Until December 31, 1977, TransCanada's investment in common shares of Great Lakes Gas Transmission Company was recorded at historic exchange rates and its accumulated share of the undistributed net earnings of Great Lakes was recorded based on month end exchange rates. At December 31, 1978 the Company has translated this investment and its share of such earnings in accordance with the above-mentioned accounting recommendations. As a result, the Company's investment in Great Lakes and its share of 1978 earnings has been reduced by $2,266,000. TransCanada's earnings per share have been reduced by 6¢.

2. Payments on Future Gas Supply

As a marketer of Canadian natural gas, the Company purchases gas from approximately 600 producers under a total of about 2,500 gas purchase contracts. These contracts generally have provisions requiring payments by the Company when it is unable to nominate for delivery of specified minimum quantities of gas. For the contract years ending October 31, 1978 and October 31, 1979, the Company has introduced an allocation program with which virtually all of its producers have concurred and under which producers will share equitably in TransCanada's available market.

On December 29, 1978 the Company paid for approximately 120 billion cubic feet of gas, delivery of which was not taken during the contract year ended October 31, 1978. The volume paid for but not taken during the same period a year earlier when it was included in the balance sheet as "Prepayments and deposits" was 7 Bcf. Deferment of the taking of deliveries is permitted under the terms of the gas purchase contracts for specified periods of time. The Company is entitled to recover in future years, within the time periods specified in such contracts, the volumes deferred with an adjustment for the prices then in effect.

Arrangements have been made with the Company's bankers to finance the total take or pay obligation outstanding at December 31, 1978 as further described in note 4.

The Company's current gas supply position is such that it anticipates it will continue to pay for, but defer taking delivery of, additional volumes of gas for several years unless substantial new markets are attached and existing export licences renewed. Based on the Company's current supply estimates and market forecasts, all gas it will be required to pay for but not take will be recovered within the specified time periods.

3. Capital Stock

Changes in the number of shares outstanding during 1978 are set out in the table below. Consideration in excess of the par value of shares issued is credited to contributed surplus

		First Preferred Shares			Second Preferred Shares
	Common Shares	$2 80 Series	$2 75 Series A*	$4 50 Series B	$2 65 Series A
Number of shares outstanding at January 1, 1978	39,457,613	782,821	32,478	1,000,000	261,583
Issued for cash under stock option plan	48,178				
Conversion of preferred shares	575,253		(31,742)		(120,728)
Redemption of preferred shares			(736)		
Purchase of preferred shares for cancellation		(21,448)			(6,124)
Number of shares outstanding at December 31, 1978	40,111,044	761,373	—	1,000,000	134,731

* In May, 1978, the Company redeemed all of the outstanding $2 75 convertible first preferred shares pursuant to the conditions of the preferred share issue

At December 31, 1978, 222,678 common shares were reserved for issuance upon exercise of options granted or which may be granted under the terms and conditions of the Company's Incentive Stock Option Plan Options on 215,275 shares were outstanding under this plan at prices varying from $8 73 to $15.08, the last of which expires in 1987 During 1978, options on 48,178 common shares were exercised for $591,000

The Company is required to maintain purchase funds for the $2 80 first preferred shares and the $2 65 convertible second preferred shares. Subject to certain conditions, the purchase funds are replenished annually on February 1 to an amount equal to 2% of the par value of the shares outstanding on the previous December 31

In the case of the $4 50 retractable first preferred shares, the Company is required on each February 1, from 1975 until 1984, to credit the lesser of $1,500,000 or the aggregate par value of the remaining shares then outstanding to a purchase fund for these shares.

These various purchase funds are applied, subject to certain conditions, to purchase those preferred shares for cancellation to the extent, if any, that such shares are available at a price not exceeding $50 00 per share plus costs of purchase To date, preferred shares have been purchased and cancelled on account of the $2 80 first preferred shares and the $2 65 second preferred shares

In addition to the above purchase fund obligations, it is the intention of the Company to purchase for cancellation during each 12 month period ending January 31 to and including January 31, 1980, to the extent available at a price per share not exceeding $50 00 plus costs of purchase, an additional $1,000,000 aggregate par value of $4 50 retractable first preferred shares.

The redemption features of the preferred shares, all of which are cumulative and redeemable, are as follows:

a) $2.80 first preferred shares	—	$50.50 per share
b) $4 50 retractable first preferred shares	—	$54 50 per share commencing February 1, 1980 and reducing in progressive steps to $50 00 per share after January 31, 1985
c) $2 65 convertible second preferred shares	—	$52 50 per share to April 30, 1982 and reducing in progressive steps to $50.50 per share after April 30, 1988

The $4 50 first preferred shares also have a retractable feature which requires the Company, subject to certain conditions, to invite tenders once during each six month period ending January 31, 1980 and January 31, 1985 for the purchase of all such retractable shares at $50.00 per share plus accrued and unpaid dividends

In addition, the $2 65 second preferred shares are convertible until May 1, 1982 on the basis of 3 3 common shares for each convertible second preferred share tendered and 444,649 common shares have been reserved in this regard at December 31, 1978.

4. Long-Term Debt

The Deed of Trust and Mortgage securing the first mortgage pipe line bonds provides for a first charge upon all the real and immoveable property and rights of the Company and a floating charge on all the remaining assets It also provides for increased sinking fund payments if a Certificate of Gas Supply indicates exhaustion of gas supply earlier than specified dates. As required, the Company's gas purchase, sales and gas products sales contracts and the contracts with The Alberta Gas Trunk Line Company Limited and Great Lakes Gas Transmission Company are mortgaged and pledged under the Deed of Trust and Mortgage.

Under the provision of the Indenture relating to the sinking fund debentures the Company will apply, subject to certain conditions, an annual amount equal to 2% of the aggregate principal amount, separately for each issue, for the purchase in the market of the debentures in each of the five years immediately preceding the establishment of the respective sinking funds. These funds are presently operative and debentures are being purchased to the extent that they are available at prices, including cost of purchase,

that do not exceed the principal amount plus accrued interest to the date of purchase. The purchased debentures are delivered to the Trustee for cancellation.

Included in long-term debt are unsecured bank loans of $154,000,000 due December 29, 1983 incurred to finance Payments on Future Gas Supply. These bank loans rank equally with the Sinking Fund Debentures and constitute prior indebtedness under the provisions of the Subordinated Debenture Indenture. The Company may prepay at any time any portion of these loans without bonus or penalty. An application has been made to the Alberta Petroleum Marketing Commission to recover costs associated with these bank loans out of the Company's Alberta cost of service and a decision is pending.

In addition to the above purchase fund requirements, mandatory retirements of long-term debt under sinking fund and other obligations approximate $53,000,000 for 1980, $58,000,000 for 1981, $50,000,000 for 1982 and $209,000,000 for 1983.

Based on the rate of exchange prevailing at December 31, 1978, $120,778,000 would be required to discharge the long-term portion of the U.S. currency debt outstanding at December 31, 1978. Such long-term debt is repayable over a period extending to 1987 and is included in the Consolidated Schedule of Long-Term Debt in the amount of $108,774,000 at December 31, 1978.

5. Restriction on Dividends

Declaration of dividends on both preferred and common shares is restricted under certain preferred share provisions and under several debt instruments. At December 31, 1978, under the most restrictive provisions $212,600,000 was available for payment of dividends on common shares.

6. Remuneration of Directors and Officers

The aggregate remuneration paid by the Company to seventeen directors, none of whom are officers of the Company, amounted to $137,000. In addition there are three directors who as officers of the Company received no remuneration as directors. The aggregate remuneration paid to twenty officers amounted to $1,317,000.

7. Pending Proceedings

Saskatchewan Power Corporation has appealed to the Federal Court of Appeal the decision of the National Energy Board dated November 26, 1976 setting rates to be charged by TransCanada for gas sold. In this appeal, Saskatchewan Power Corporation has brought into question the validity of certain provisions of the National Energy Board Act. Some of the matters at issue are the same as those raised by Saskatchewan Power Corporation in a previous appeal which has now been resolved in favour of the Company.

Since the disposition of that appeal, no new steps have been taken in the appeal which is still pending in the Federal Court. If in the course of this appeal, the provisions of the National Energy Board Act are found to be invalid or more limited in scope than has been considered heretofore, the Company's rates, tolls and tariffs may be regulated differently from the way in which they are at present. In the opinion of counsel to the Company, the National Energy Board Act is valid legislation and the Board has properly exercised its jurisdiction in setting rates.

Auditors' Report

PEAT, MARWICK, MITCHELL & CO.
CHARTERED ACCOUNTANTS
Commerce Court West
P. O. Box 31, Commerce Court Postal Station
Toronto, Ontario
M5L 1B2

Auditors' Report to the Shareholders

We have examined the consolidated balance sheet of TransCanada PipeLines Limited as at December 31, 1978 and the consolidated statements of income, retained earnings, contributed surplus and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the company as at December 31, 1978 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles which, except for the change in accounting for income taxes and the translation of foreign currency financial statements described in note 1, have been applied on a basis consistent with that of the preceding year.

Peat, Marwick, Mitchell & Co.

Toronto, Canada
January 19, 1979

Chartered Accountants

Five Year Summary

	1978	1977	1976	1975	1974
Income (in thousands of dollars)					
Operating Revenues					
Gas sales	$2,171,627	$1,851,644	$1,482,957	$ 901,167	$ 561,255
Gas transportation and other	21,586	18,681	16,180	19,222	6,687
	2,193,213	1,870,325	1,499,137	920,389	567,942
Operating Expenses					
Cost of gas sold, gathering charges and acquisition costs	1,703,611	1,447,720	1,108,613	601,013	316,691
Transmission by other companies	113,228	96,181	95,987	78,066	60,767
Operation and maintenance	58,177	56,719	52,035	37,844	27,915
Compressor fuel	64,071	65,098	48,508	27,244	16,697
Depreciation	52,113	49,252	47,853	39,136	34,463
Taxes—other than income	13,373	12,594	11,209	9,236	7,462
Income taxes—current	26,400	—	—	—	—
—deferred	3,100	—	—	—	—
	2,034,073	1,727,564	1,364,205	792,539	463,995
Operating income	159,140	142,761	134,932	127,850	103,947
Other Income					
Equity in net income of Great Lakes Gas Transmission Company	7,975	9,411	8,329	6,670	6,098
Other income (net)	2,750	6,520	6,604	2,211	5,013
Income before financial charges	169,865	158,692	149,865	136,731	115,058
Financial Charges (net)	74,766	72,509	70,230	70,434	69,476
Net Income for the Year	95,099	86,183	79,635	66,297	45,582
Provision for dividends on preferred shares	7,173	7,860	10,456	13,863	12,119
Net Income Applicable to Common Shares	$ 87,926	$ 78,323	$ 69,179	$ 52,434	$ 33,463
Net Income per Average Common Share					
Basic	$ 2.20	$ 2.01	$ 1.92	$ 1.65	$ 1.17
Fully diluted	$ 2.18	$ 1.95	$ 1.79	$ 1.45	$ 1.03
Dividends declared, per common share	$ 1.06¼	$ .97	$ .85¾	$ .69	$ .48⅓
Dividend payout ratio, common shares	% 48.29	% 48.26	% 44.66	% 41.82	% 41.31
Funds provided from operations	$ 147,905	$ 131,744	$ 127,161	$ 105,220	$ 73,664
—per average common share	$ 3.70	$ 3.38	$ 3.52	$ 3.31	$ 2.57
Balance Sheet (in thousands of dollars)					
Plant, property and equipment—gross	$1,766,893	$1,720,910	$1,637,789	$1,588,754	$1,555,506
—net	1,363,922	1,362,640	1,322,662	1,315,545	1,314,992
Annual additions	52,197	88,075	53,747	38,435	108,578
Long-term debt	917,026	822,299	809,701	819,797	820,075
Shareholders' equity—total	650,540	605,623	567,971	535,762	508,391
—common	555,734	501,779	446,411	317,755	276,903
—per common share at year end	13.85	12.71	11.67	9.93	8.91
Statistics					
Miles of pipeline—including loopline	5,795	5,800	5,720	5,678	5,678
Compressor horsepower	951,490	951,490	951,490	950,690	950,690
Gas delivered for sales and transportation (millions of cubic feet)					
—annual	1,158,154	1,170,343	1,127,982	1,100,550	1,096,410
—maximum day	3,826	3,819	3,741	3,431	3,531
Number of employees—average	1,631	1,590	1,541	1,460	1,460
Common shares outstanding—year end	40,111,044	39,487,613	38,248,159	32,005,509	31,077,790
—average	39,931,361	39,028,618	36,117,610	31,746,810	28,687,701
Number of shareholders, December 31	28,655	27,341	25,454	24,244	24,302

Note: The above FIVE YEAR SUMMARY reflects a restatement of 1976 earnings increasing net income by $2,856,000 and an adjustment of Great Lakes' 1978 earnings reducing net income by $2,266,000.

Shareholders and others desiring information on TransCanada PipeLines may obtain a ten year summary by requesting a copy of the booklet "Operating and Statistical Information 1969-1978" from Mr. H. N. Nichols, Vice President and Treasurer, TransCanada PipeLines, P.O. Box 54, Commerce Court West, Toronto, Ontario, M5L 1C2.

Corporate Information

Executive Office
P.O. Box 54, Commerce Court West,
Toronto, Ontario, M5L 1C2

Head Office
407 Eighth Avenue S.W., Calgary,
Alberta, T2P 2M7

Subsidiary (Wholly Owned)

International PipeLine Engineering Limited
A company carrying on the business of engineering, design and supervision of construction of pipelines and associated facilites.

Affiliate (50% Owned)

Great Lakes Gas Transmission Company
A Delaware company owning and operating a pipeline through the United States from Emerson, Manitoba to Sault Ste. Marie and Sarnia, Ontario

Common Shares

Transfer Agents
Montreal Trust Company, Montreal, Toronto, Winnipeg, Regina, Calgary and Vancouver. Citibank, N.A., New York.

Registrars
National Trust Company, Limited, Toronto.
The Canadian Bank of Commerce Trust Company, New York.

Preferred Shares
$2.80 cumulative redeemable first preferred shares.
$4.50 cumulative redeemable retractable first preferred shares series B.
$2.65 cumulative redeemable convertible second preferred shares series A.

Transfer Agents and Registrars
$2.80 and $2.65 National Trust Company, Limited, Montreal, Toronto, Winnipeg, Calgary and Vancouver.
$4.50 Royal Trust Company, Montreal, Toronto, Winnipeg, Regina, Calgary and Vancouver.

Bonds

Trustee
National Trust Company, Limited, Toronto.

Registrar Canadian Series
6¼% first mortgage pipe line bonds, National Trust Company, Limited, Montreal and Toronto.
8¾% and 8⅝% first mortgage pipe line bonds, National Trust Company, Limited, Montreal, Toronto, Winnipeg, Calgary and Vancouver.

Registrar U.S. Series
5⅛%, 5¾% and 6⅝% first mortgage pipe line bonds, Morgan Guaranty Trust Company of New York.

Sinking Fund Debentures

Trustee
Crown Trust Company, Toronto.

Registrar
10% series A, 9¾% series B, 9% series C, 8⅞% series D, 9% series E, 11½% series F and 9.60% series G sinking fund debentures, Crown Trust Company, Montreal, Toronto, Winnipeg, Calgary and Vancouver.

Subordinated Debentures

Trustee
Montreal Trust Company, Toronto.

Registrar Canadian Series
5.85% subordinated debentures, Montreal Trust Company, Montreal, Toronto, Winnipeg, Calgary and Vancouver.

Registrar U.S. Series
5.60% subordinated debentures, Citibank, N.A., New York.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